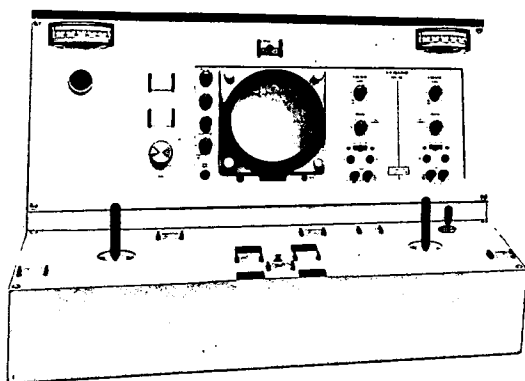


# NASA TECH BRIEF

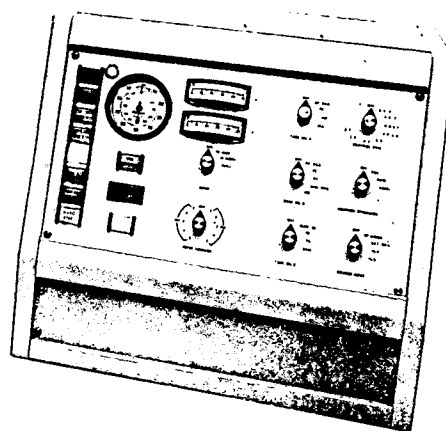


NASA Tech Briefs are issued to summarize specific innovations derived from the U.S. space program, to encourage their commercial application. Copies are available to the public at 15 cents each from the Clearinghouse for Federal Scientific and Technical Information, Springfield, Virginia 22151.

## Improved Perceptual-Motor Performance Measurement System



Subject Console



Experimenter Console

An integrated battery of tests has been developed to measure the primary dimensions of perceptual-motor performance. An extensive review of the technical literature resulted in the selection of eighteen basic measures for inclusion in the battery. As represented in the form of standard tests, these measures present a rather large spectrum of materials ranging from simple paper-and-pencil tests to sophisticated electronic and electromechanical devices.

A test console was developed which demonstrated the feasibility of the integrated battery approach. All electronic and electromechanical components were contained within this unit while a limited number of ancillary plug-in components may be used to test abilities such as manual dexterity. This test battery was administered to a group of ten adult males and the results used to refine test procedures and instructions and to provide test time estimates. At the con-

clusion of the program, a report was prepared which presents the complete rationale for the development program and describes the console in detail.

The prototype model was built as a single unit. While this design was appropriate for conditions in which a single individual in isolation could self-administer the tests, the system would offer greater utility for research purposes if the subject and experimenter functions were separated. In this way, subjects could be tested within a particular environment while the experimenter operated from outside that environment. Accordingly, an improved system (see illustration) was designed as two units, one for the subject and containing all test display and response elements, and the other an experimenter console in which all test setups, programming, and scoring were accomplished. The two consoles may be connected by a single multiconductor cable of appropriate length.

(continued overleaf)

**Notes:**

1. While originally conceived for testing the perceptual and motor skills of astronauts, this system could be used, for example, in the selection of pilot trainees for the military and for commercial airlines.
2. Requests for further information may be directed to:  
Technology Utilization Officer  
Headquarters  
National Aeronautics  
and Space Administration  
Washington, D.C. 20546  
Reference: TSP69-10385

**Patent status:**

No patent action is contemplated by NASA.

Source: R. E. Reilly and J. F. Parker, Jr.  
Biotechnology, Inc.  
under contract to  
NASA Headquarters  
(HQN-10123)